

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. James H. Morris (Reg. No. 34,681) on 03/28/2008.

2. The Application has been amended as follows:

In the claims:

- Claim 27, "an autocorrelation" (line 4) has been changed to ---a first autocorrelation---.
- Claim 27, "an autocorrelation" (line 6) has been changed to ---a second autocorrelation---.
- Claim 27, "with the frequency" (lines 12-13) has been changed to ---with the estimate of the frequency---.
- Claim 27, "with a known training" (line 16) has been changed to ---with a third training---.
- Claim 28, "the known training" (page # 3, line 2) has been changed to ---the third training---.

- Claim 29, "in the autocorrelation signal of the received signal" (lines 2-3) has been changed to ---in at least one of the first and second autocorrelation signals---.
- Claim 30, "the known training" (line 2) has been changed to ---the third training---.
- Claim 30, "of the autocorrelation signal" (line 3) has been changed to ---of at least one of the first and second autocorrelation signals---.
- Claim 31, "the known training" (line 2) has been changed to ---the third training---.
- Claim 31, "of the autocorrelation signal" (line 3) has been changed to ---of at least one of the first and second autocorrelation signals---.
- Claim 36, "the carrier" (line 2) has been changed to ---the estimate of the carrier---.
- Claim 37, "autocorrelation signal from a known sequence" (line 3) has been changed to ---first autocorrelation signal---.
- Claim 38, "in the autocorrelation signal from a further known sequence of the received signal" (lines 2-3) has been changed to ---in the second autocorrelation---.
- Claim 39, "a known training" (lines 2-3) has been changed to ---a fourth training---.
- Claim 39, "of the autocorrelation signal" (line 3) has been changed to ---of at least one of the first and second autocorrelation signals.

Art Unit: 2611

- Claim 40, "a known training" (lines 2-3) has been changed to ---a fourth training---.
- Claim 40, "of the autocorrelation signal" (line 3) has been changed to ---of at least one of the first and second autocorrelation signals---.
- Claim 41, "a known training" (lines 2-3) has been changed to ---a fourth training--- and "the known training" (line 4) has been changed to ---the third training---.
- Claim 44, "output the" (line 2) has been changed to ---output a--- and "the known training" (line 4) has been changed to ---the third training---.
- Claim 46, "the known training" (line 3) has been changed to ---the third training--- and "the known training" (line 7) has been changed to ---the third training---.
- Claim 47, "the training" (line 3) has been changed to ---the third training---.
- Claim 48, "received signals also contain a" (lines 1-2) has been changed to ---received signal includes a---.
- Claim 50, "an autocorrelation" (line 3) has been changed to ---a first autocorrelation---, "an autocorrelation" (lines 9-10) has been changed to ---a second autocorrelation--- and "a known training" (line 15) has been changed to ---a third training---.

***Reasons for Allowance***

3. Claims 27-50 are allowed.
4. The following is an examiner's statement of reasons for allowance:
5. With respect to claims 27-49, the prior art of record fails to teach or suggest a receiver for receiving a signal comprising a modulated carrier, with a frame having a first and second training sequences, comprising a frequency offset estimation unit for receiving the signal and obtaining initial information relating to a carrier frequency offset from a first autocorrelation signal obtained by autocorrelation of the first training sequence of the received signal and for obtaining an estimate of the carrier frequency offset from the initial information and a second autocorrelation signal obtained by autocorrelation of the second training sequence of the received signal, wherein: the initial information comprises a sign of the carrier frequency offset, the second training sequence is longer than the first training sequence, and the autocorrelation of the second training sequence uses more samples than the autocorrelation of the first training sequence as recited in an independent claim 27 and in combination with other elements in the claim.
6. With respect to claim 50, the prior art of record fails to teach or suggest a method for processing a received signal comprising a modulated carrier having a frame with a first and second training sequences, comprising: obtaining initial information relating to carrier frequency offset from a first autocorrelation signal obtained by autocorrelation of the first training of the received signal, wherein: the initial information comprises a sign of the carrier frequency offset, the second training sequence is longer than the first

training sequence, and the autocorrelation of the second training sequence uses more samples than the autocorrelation of the first training sequence as recited in an independent claim 50 and in combination with other elements of the claim.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAHEED EJAZ whose telephone number is (571)272-5947. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/532,155

Page 7

Art Unit: 2611

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner  
Art Unit 2611

3/28/2008

*N.E.*

/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611